LaSalle Generating Station
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Exelon Nuclear

10 CFR 50.73

RA11-013

March 25, 2011

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

LaSalle County Station, Unit 1
Facility Operating License No. NPF-11
NRC Docket No. 50-373

Subject: Licensee Event Report 2011-001-00

In accordance with 10 CFR 50.73(a)(2)(iv)(A), Exelon Generation Company (EGC), LLC, is submitting Licensee Event Report Number 2011-001-00.

There are no regulatory commitments in this report. Should you have any questions concerning this report, please contact Mr. Terrence W. Simpkin, Regulatory Assurance Manager at (815) 415-2800.

Respectfully,

Peter J. Karaba
Plant Manager
LaSalle County Station

Enclosure: Licensee Event Report

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – LaSalle County Station

NRC FORM 366 (10-2010) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2013

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
LaSalle County Station Unit 1	05000373	1 OF 3

4. TITLE

Automatic Reactor Scram Due to Main Power Transformer "C" Phase Electrical Fault

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
02	01	2011	2011	- 01 -	00	03	25	2011	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE

1

10. POWER LEVEL

100

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*

- ■ 20.2201(b)
- ■ 20.2201(d)
- ■ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ■ 20.2203(a)(2)(ii)
- ■ 20.2203(a)(2)(iii)
- ■ 20.2203(a)(2)(iv)
- ■ 20.2203(a)(2)(v)
- ■ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☐ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☒ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER *(Include Area Code)*
Jeffery C. Williams	(815) 415-2203

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
C	EL	IB	W120	Y					

14. SUPPLEMENTAL REPORT EXPECTED

☐ ■ *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR
N/A		

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On February 1, 2011, at 1918 hours CST, LaSalle Unit 1 automatically scrammed from 100% power. The scram was due to a main generator load reject caused by a fault on the C-phase of the 1W Main Power Transformer (1W MPT).

The safety significance of this event was minimal. All control rods fully inserted, all systems responded as expected to the scram, and Emergency Core Cooling Systems were not challenged.

The root cause of the event was determined to have been external bushing flashover due to moist snow and ice buildup along the exterior bushing skirts of the 1W MPT that surpassed its flashover resistance (i.e., creep length rating) during unusually adverse weather conditions. Corrective actions included diagnosis of extent of damage along with the repair and restoration of the 1W MPT that included replacement of the C-phase bushing, the C corona ring and the MPT mechanical relief valve. Corrective action to prevent recurrence includes replacement of the MPT bushings with a more robust anti-flashover design that exceeds minimum Basic Insulation Level (BIL) rating.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
LaSalle County Station, Unit 1	05000373	2011	- 01 -	00	2 OF 3

NARRATIVE

LaSalle County Station (LSCS) Unit 1 is a General Electric Boling Water Reactor with 3546 Megawatts Thermal Rated Core Power.

A. CONDITION PRIOR TO EVENT:

Unit(s): 1 Event Date: February 1, 2011 Event Time: 1918 CST
Reactor Mode(s): 1 Mode(s) Name: Power Operations Power Level: 100 percent

B. DESCRIPTION OF EVENT:

On February 1, 2011, at 1918 hours CST, LaSalle Unit 1 automatically scrammed from 100% power. The scram was due to a main generator load reject caused by a fault on the C-phase of the 1W Main Power Transformer (1W MPT)(MP)[EL]. All control rods fully inserted, all systems responded as expected to the scram, and Emergency Core Cooling Systems were not challenged.

Following repair and restoration of the 1W MPT, the unit was restarted on February 10, 2011, and subsequently synchronized to the grid on February 11, 2011. Unit 1 returned to full power at 1815 CST on February 12, 2011.

This event is reportable under 10 CFR 50.72(b)(2)(iv)(B) and 10 CFR 50.73(a)(2)(iv)(A) as an event or condition that resulted in a valid, automatic actuation of the Reactor Protection System. The NRC was notified of this occurrence via ENS 46582, at 2154 hours CST on February 1, 2011.

C. CAUSE OF EVENT:

The root cause analysis concluded that the event was caused by external bushing flashover due to ice and snow buildup on the C-phase bushing, which diminished its creepage length rating (defined as the contoured surface distance of an insulator between conducting surfaces). The condition was further aggravated by the presence of sodium chloride, imbedded with small amounts of limestone and soil silicates that reduced the insulative capability of the bushing in localized areas and further reduced the creep distance.

Adverse weather conditions were present at the time of the scram. These included blizzard conditions, wind gusts of up to 54 mph and sustained winds of 40 mph just prior to the MPT transient from a direction of 48 degrees (i.e., winds from the NE blowing SW), with an air temperature of 22 degrees F.

D. SAFETY ANALYSIS:

The safety significance of this event was minimal. All control rods fully inserted and all systems responded as expected to the scram. The Emergency Core Cooling Systems were not challenged. This event did not meet the NEI 99-02 definition of an unplanned scram with complications. There were no safety system functional failures.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
LaSalle County Station, Unit 1	05000373	2011	- 01 -	00	3 OF 3

NARRATIVE

E. CORRECTIVE ACTIONS:

Corrective Actions:

- The C-phase bushing, the C corona ring and the MPT mechanical relief valve were replaced
- A comprehensive engineering strategy plan to significantly reduce the potential for high voltage bushing flashover will be developed
- A subject matter expert review will be conducted of the cleaning frequency and methodology guideline to determine best practices for maintaining bushing cleanliness across high risk seasonal salt and snow accumulations

Corrective Action to prevent Recurrence:

- MPT bushings will be replaced with a more robust anti-flashover design that exceeds minimum Basic Insulation Level (BIL) rating, adding more margin to the creep length

F. PREVIOUS OCCURRENCES:

LER 05000373/2009-01-00

On May 21, 2009, at 1635 CDT, LaSalle Unit 1 automatically scrammed from 100% power. The scram was due to a generator lockout signal caused by a failure of the surge arrestor on the A phase of the 1W MPT. The cause of surge arrestor failure was determined to have been due to a manufacturer's defect.

G. COMPONENT FAILURE DATA:

Manufacturer: Westinghouse (W120)
Model: Type O